



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2009-0908; Directorate Identifier 2009-NM-067-AD; Amendment 39-16987; AD 2012-06-06]**

**RIN 2120-AA64**

**Airworthiness Directives; The Boeing Company Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain The Boeing Company Model 757 airplanes. This AD requires replacing the power control relays for the fuel boost pumps and override pumps with new relays having a ground fault interrupter (GFI) feature. This AD also requires an electrical bonding resistance measurement for certain GFI relays to verify that certain bonding requirements are met. This AD also requires, for certain airplanes, an inspection to ensure that certain screws are properly installed, and installing longer screws if necessary. This AD was prompted by fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent damage to the fuel pumps caused by electrical arcing that could introduce an ignition source in the fuel tank, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Georgios Roussos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, Seattle Aircraft Certification Office, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6482; fax: (425) 917-6590; e-mail: [Georgios.Roussos@faa.gov](mailto:Georgios.Roussos@faa.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Discussion**

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to the specified products. That SNPRM was published in the Federal Register on January 3, 2011 (76 FR 28). The original NPRM (74 FR 53436, October 19, 2009) proposed to require replacing

the power control relays for the fuel boost pumps and override pumps with new relays having a GFI feature. The SNPRM proposed to add an electrical bonding resistance measurement for certain GFI relays to verify that certain bonding requirements are met. The SNPRM also proposed to add, for certain airplanes, an inspection to ensure that certain screws are properly installed, and installing longer screws if necessary.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the SNPRM (76 FR 28, January 3, 2011) and the FAA's response to each comment. Boeing concurs with the contents of the SNPRM.

### **Request to Permit Incorporation of Universal Fault Interrupter (UFI) as a Means of Compliance**

American Airlines (AA) and TDG Aerospace requested that we revise the SNPRM (76 FR 28, January 3, 2011) to allow incorporation of the previously-approved Supplemental Type Certificate (STC) ST01950LA, issued January 17, 2007, as an approved means of compliance for providing fault protection for the center override fuel pumps. The commenters stated that the UFI, in accordance with STC ST01950LA, performs as a GFI for the center override pumps, providing equivalent or better protection for detection and prevention of ground fault anomalies. The commenters added that the FAA has acknowledged that the UFI provides transient fault detection and steady state fault detection; and in response to any of the above electrical faults, the UFI will de-energize the airplane electromechanical relay to shut off the fuel pump. TDG stated that Boeing Model 757 airplanes utilize the same fuel pump part number for the center tank fuel boost pump application as the Boeing Model 737NG airplane. TDG Aerospace STC ST01950LA for Model 757 airplanes utilizes the same UFI part number as STC ST02076LA for Model 737NG airplanes that have the UFI as an acceptable means of compliance through the Manager, Seattle Aircraft Certification Office (ACO) approval

process under Docket No. FAA-2010-1199 (AD 2011-20-07, Amendment 39-16818 (76 FR 60710, September 30, 2011)). TDG Aerospace pointed out that a large number of Model 757 operators have already incorporated STC ST01950LA as a means of compliance with FAA AD 2008-11-07, Amendment 39-15529 (73 FR 30755, May 29, 2008).

We partially agree. We have been informed that referring to an STC now violates Office of the Federal Register (OFR) regulations (1 CFR part 51) for approval of optional materials “incorporated by reference” in rules. However, we have added paragraph (g)(2)(ii) to this AD to specify that installation of TDG Aerospace UFIs to the center tank override pumps must be done in accordance with a method approved by the Manager, Seattle ACO, FAA. We have also added “Note 1 to paragraph (g)(2)(ii) of this AD” to specify that additional guidance on installing TDG Aerospace UFIs can be found in TDG Aerospace STC ST01950LA.

#### **Request to Forego Screw Length Inspections and Electrical Bonding Checks for Center Override Pumps**

AA requested that we exempt airplanes that have the UFI installed for the center override pumps from performing screw length inspections and electrical bonding checks that are specific to the GFI installation. The commenter stated that the UFI installation under STC ST01950LA already complies with proper grip length. The commenter also stated that the UFI STC requires the bonding check of the installed UFI bracket to each panel.

We disagree with the commenter’s request because the inspection requirements of paragraph (h) of the final rule clearly identify that the screw grip length inspections and GFI bonding checks are applicable only to airplanes that have Boeing Alert Service Bulletin 757-28A0078 or 757-28A0079, both dated July 16, 2008, accomplished before the effective date of the AD. Airplanes that have incorporated the UFI under STC ST01950LA on their center tank override pumps do not need to perform these additional

inspections required by paragraph (h) of this AD. No changes have been made to this AD in this regard.

### **Request to Correct Typographical Errors in Service Bulletins**

AA and United Airlines requested correction of a number of typographical errors in Boeing Service Bulletins 757-28A0078 and 757-28A0079, both Revision 1, both dated August 24, 2010.

AA stated that typographical errors in Boeing Service Bulletin 757-28A0078, Revision 1, dated August 24, 2010, mistakenly refer to the P37 panel as “P33.” In addition, AA and United Airlines stated that those service bulletins mistakenly refer to the standard wiring practices manual rather than the standard overhaul practices manual (SOPM) for the P33 and P37 panel identification.

United Airlines requested that paragraph (i) of the SNPRM (76 FR 28, January 3, 2011) be corrected to identify paragraph 3.B.12.l.(5) of Part 1 of the Accomplishment Instructions of Boeing Service Bulletin 757-28A0078, Revision 1, dated August 24, 2010, and not the currently referenced paragraph 3.B.12.i.(5). Boeing Service Bulletin Information Notice 757-28A0078 IN 02, dated October 6, 2010, identifies paragraph 3.B.12.l.(5) as the impacted paragraph of the service bulletins.

We agree that the typographical errors needed to be corrected. Boeing has released Service Bulletins 757-28A0078 and 757-28A0079, both Revision 2, both dated January 11, 2012, which correct typographical errors in the calculations in paragraphs 3.B.12.m.(5) and 3.B.12.m.(6) of Boeing Service Bulletins 757-28A0078 and 757-28A0079, both Revision 1, both dated August 24, 2010. These service bulletin revisions also clarify certain actions and correct other typographical errors. Paragraphs (c), (g), and (h) of this AD have been updated to refer to Boeing Service Bulletins 757-28A0078 and 757-28A0079, both Revision 2, both dated January 11, 2012. Paragraph (i) of the SNPRM (76 FR 28, January 3, 2011) has been removed from this

final rule. We have also added a new paragraph (i) to this AD to allow credit for accomplishing Boeing Service Bulletin 757-28A0078 or 757-28A0079, both Revision 1, both dated August 24, 2010, before the effective date of this AD.

#### **Request to Allow Identification of P33 and P37 Panels “Outside the Scope of the AD”**

AA recommended that we allow the identification of the P33 and P37 panels as a statement “outside the scope of the AD.” AA stated that the GFI physical differences would be enough to distinguish between the old and new relay types. The commenter also stated that post-modification parts are illustrated in the revisions to operators’ manuals, in the illustrated parts catalog, and airplane maintenance manual. The commenter pointed out that the lack of panel labeling would not affect the level of safety.

We disagree with the commenter’s recommendation to change the final rule to address this issue. The requirement for panel identification specified in Step 3 in Figure 1 and Figure 2 of Boeing Service Bulletins 757-28A0078 and 757-28A0079, both Revision 1, both dated August 24, 2010, refers to identifying the P33 and P37 panels to show that this change was accomplished. Note (a) that accompanies the Step 3 instructions in those service bulletins calls for marking the panels with a unique marking under SOPM 20-50-10, which points to the incorporation of the changes under the accomplishment instructions of those service bulletins. It does not call for a change to the P33 and P37 panel part number. No change has been made to the AD in this regard.

#### **Explanation of Changes to Final Rule**

We have restructured paragraph (g) of this AD to clarify the locations for replacing the power control relays. Paragraph (g)(1) of this AD specifies the “main tank fuel boost pumps,” and paragraph (g)(2) of this AD specifies the “center tank override fuel boost pumps.”

In addition, we have removed the Paperwork Reduction Act Burden Statement paragraph since no reporting is required in this AD.

## Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD with the changes described previously – and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the SNPRM (76 FR 28, January 3, 2011) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the SNPRM (76 FR 28, January 3, 2011).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of the AD.

## Costs of Compliance

We estimate that this AD affects 696 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replacement, measurement, and operational test	7 work-hours X \$85 per hour = \$595	\$12,600	\$13,195	Up to \$9,183,720 <sup>1</sup>
Inspection of screw installation and bonding resistance measurement	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$59,160

<sup>1</sup>The cost for U.S. operators depends on airplane configuration.

We estimate the following costs to do any necessary installation that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need this installation:

### On-condition costs

Action	Labor cost	Parts cost	Cost per product
Installation of longer screw	1 work-hour X \$85 per hour = \$85	\$0	\$85

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

**List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

**Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

**PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2012-06-06 **The Boeing Company**: Amendment 39-16987; Docket No. FAA-2009-0908; Directorate Identifier 2009-NM-067-AD.

**(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to The Boeing Company Model 757-200, -200PF, -200CB, and -300 series airplanes, certificated in any category; as identified in the applicable service bulletin specified in paragraph (c)(1) or (c)(2) of this AD.

(1) For Model 757-200, -200PF, and -200CB series airplanes: Boeing Service Bulletin 757-28A0078, Revision 2, dated January 11, 2012.

(2) For Model 757-300 series airplanes: Boeing Service Bulletin 757-28A0079, Revision 2, dated January 11, 2012.

**(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 28, Fuel.

**(e) Unsafe Condition**

This AD was prompted by fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent damage to the fuel pumps caused by electrical arcing that could introduce an ignition source in the fuel tank, which, in combination with flammable fuel vapors, could result in a fuel tank explosion and consequent loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Replacement, Measurements, and Test**

For airplanes on which the actions specified in Boeing Alert Service Bulletin 757-28A0078, dated July 16, 2008, or 757-28A0079, dated July 16, 2008, have not been accomplished before the effective date of this AD: Within 60 months after the effective date of this AD, do the actions specified in paragraphs (g)(1) and (g)(2) of this AD.

(1) Replace the power control relays for the main tank fuel boost pumps with new relays having a ground fault interrupter (GFI) feature; do applicable electrical bonding resistance measurements between the GFI relays and their installation panel to verify that applicable bonding requirements are met; and do an operational test to ensure correct operation; as specified in Boeing Service Bulletin 757-28A0078, Revision 2, dated January 11, 2012 (for Model 757-200, -200CB, and -200PF series airplanes); or Boeing Service Bulletin 757-28A0079, Revision 2, dated January 11, 2012 (for Model 757-300 series airplanes). Do all actions in accordance with Part 1 of the Accomplishment

Instructions of Boeing Service Bulletin 757-28A0078, Revision 2, dated January 11, 2012 (for Model 757-200, -200CB, and -200PF series airplanes); or Boeing Service Bulletin 757-28A0079, Revision 2, dated January 11, 2012 (for Model 757-300 series airplanes).

(2) Replace the power control relays for the center tank override fuel boost pumps with new relays having a GFI feature, in accordance with the actions required in paragraph (g)(2)(i) or (g)(2)(ii) of this AD.

(i) Replace the power control relays with new relays having a GFI feature; do applicable electrical bonding resistance measurements between the GFI relays and their installation panel to verify that applicable bonding requirements are met; and do an operational test to ensure correct operation; as specified in Boeing Service Bulletin 757-28A0078, Revision 2, dated January 11, 2012 (for Model 757-200, -200CB, and -200PF series airplanes); or Boeing Service Bulletin 757-28A0079, Revision 2, dated January 11, 2012 (for Model 757-300 series airplanes). Do all actions in accordance with Part 1 of the Accomplishment Instructions of Boeing Service Bulletin 757-28A0078, Revision 2, dated January 11, 2012 (for Model 757-200, -200CB, and -200PF series airplanes), or Boeing Service Bulletin 757-28A0079, Revision 2, dated January 11, 2012 (for Model 757-300 series airplanes).

(ii) Install and maintain TDG Aerospace universal fault interrupters (UFIs), in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA.

Note 1 to paragraph (g)(2)(ii) of this AD: Guidance on installing TDG Aerospace UFIs can be found in Supplemental Type Certificate ST01950LA ([http://rgl.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgSTC.nsf/0/196ec7e864607b5b862573c5007cb3b5/\\$FILE/ST01950LA.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgSTC.nsf/0/196ec7e864607b5b862573c5007cb3b5/$FILE/ST01950LA.pdf)).

**(h) Inspection**

For airplanes on which the actions specified in Boeing Alert Service Bulletin 757-28A0078, dated July 16, 2008, or 757-28A0079, dated July 16, 2008, have been accomplished before the effective date of this AD: Within 60 months after the effective date of this AD, do a general visual inspection to verify that each GFI installation screw has enough grip length to hold the screws in each nut plate, and do applicable electrical bonding resistance measurements between the GFI relays and their installation panel to verify that applicable bonding requirements are met. If the screw does not have enough grip length, before further flight, install a longer screw. Do all actions in accordance with Part 2 of the Accomplishment Instructions of Boeing Service Bulletin 757-28A0078, Revision 2, dated January 11, 2012 (for Model 757-200, -200CB, and -200PF series airplanes); or Boeing Service Bulletin 757-28A0079, Revision 2, dated January 11, 2012 (for Model 757-300 series airplanes).

**(i) Credit for Previous Actions**

This paragraph provides credit for the actions required by this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 757-28A0078 or 757-28A0079, both Revision 1, both dated August 24, 2010.

**(j) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Seattle ACO, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be e-mailed to:

[9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(k) Related Information**

For more information about this AD, contact Georgios Roussos, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, Seattle ACO, FAA, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: (425) 917-6482; fax: (425) 917-6590; e-mail: [Georgios.Roussos@faa.gov](mailto:Georgios.Roussos@faa.gov). Or, e-mail information to [9-ANM-Seattle-ACO-AMOC-Requests@faa.gov](mailto:9-ANM-Seattle-ACO-AMOC-Requests@faa.gov).

**(l) Material Incorporated by Reference**

(1) You must use the following service information to do the actions required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference (IBR) under 5 U.S.C. 552(a) and 1 CFR part 51 of the following service information:

(i) Boeing Service Bulletin 757-28A0078, Revision 2, dated January 11, 2012.

(ii) Boeing Service Bulletin 757-28A0079, Revision 2, dated January 11, 2012.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; e-mail [me.boecom@boeing.com](mailto:me.boecom@boeing.com); Internet <https://www.myboeingfleet.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, call 202-741-6030, or go to [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on March 9, 2012.

Ali Bahrami,  
Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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